MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2022/2023

DII5614 – PRINCIPLES OF INVESTMENT

(All sections/Groups)

5th JULY 2023
9.00 a.m. – 11 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 7 pages with 2 sections.

2. Attempt **ALL** questions in Section A and Section B. The distribution of the marks for each question is given.

3. Please write all your answers for Section A on the OMR form provided and all answers for Section B in the Answer Booklet provided.

4. The formulae are given in the appendices.

SECTION A: Multiple Choice Questions (20 Marks)

1. All the following describe the attractions of mutual funds **EXCEPT** _____.
   A. able to diversify portfolio
   B. ability to invest in big amounts
   C. it has high liquidity
   D. easy to track price

2. What is the transaction cost that occurs in purchasing mutual fund?
   A. Management fee.
   B. Broker fee.
   C. Market clearance fee.
   D. Market index fee.

3. Which of the following is the duty of a custodian in mutual fund transaction process?
   A. A custodian physically safeguards the securities.
   B. A custodian keeps track of purchases.
   C. A custodian handle redemption request.
   D. A custodian sells and buys stocks on behalf of the client.

4. Linda buys and sells shares directly with the mutual fund company without a secondary market. This is also known as _____.
   A. Open-end investment companies.
   B. Close-end investment companies.
   C. Unit Investment Trusts (UIT).
   D. Real Estate Investment Trust (REIT).

5. _____ is a highly speculative mutual fund that seeks large profits from capital gains.
   A. Growth fund.
   B. Value fund.
   C. Aggressive growth fund.
   D. Equity-income fund.

6. Christina is searching for a mutual fund that has both long-term growth and current income. Her primary emphasis is on capital gains. Which of the following mutual funds suits her?
   A. Balanced funds.
   B. Bond funds.
   C. Municipal bond funds.
   D. Growth-and-income funds.

7. Sherlyn wants to invest in _____, so she excluded the companies related to gambling and alcohol.
   A. sector fund
   B. index fund
   C. socially responsible funds
   D. international funds

8. What is the relationship between interest rates and bond prices?
   A. Negative relationship.
   B. Positive relationship.
   C. Insignificant relationship.
   D. Neutral relationship.

9. _____ calculates value based upon present value of interest received and the appreciation of the bond if held until maturity.
   A. Yield to call.
   B. Yield to maturity.
   C. Future yield.
   D. Present maturity yield.

10. _____ normally uses bonds call price instead of par value.
   A. Yield to call.
   B. Yield to maturity.
   C. Yield to bond.
   D. Yield to margin.

11. Bond with _____ yield to maturity lead to shorter durations.
   A. longer
   B. higher
   C. shorter
   D. faster

12. Hui En who want to go with a _____ when she invests in bond. Her main focus is achieving high current income and high credit quality bonds are used.
   A. stagnant approach
   B. aggressive approach
   C. conservative approach
   D. high income approach

13. Which of the following is **NOT** the factor that can affect an intrinsic value of a stock?
   A. Discount rate.
   B. Amount of risk.
   C. Estimate of future cash flows.
   D. Company management.

14. Which of the following is the first step in analysing a stock?
    A. Economic analysis.
    B. Industry analysis.
    C. Fundamental analysis.
    D. Liquidity analysis.

15. _____ is an amount of profit earned from sales and other operations.
    A. Inventory turnover
    B. Net working capital
    C. Net profit margin.
    D. Return on equity.

16. What normally investor is looking for on the income statement of a specific company's stock?
    A. The management organization chart.
    B. The usage of cash.
    C. The improving or decreasing trend of their income performance.
    D. The liquidity of the company.

17. Which of the following ratio shows how well the company is managing its assets?
    A. Liquidity ratios.
    B. Activity ratios.
    C. Leverage ratios.
    D. Common stock ratios.

18. Which of the following is **NOT** the disadvantages of stock ownership?
    A. It is hard to predict which stock will go up.
    B. It has low current income compared to other investment alternatives.
    C. It has market risk.
    D. It has a low enough unit cost per share to encourage people to buy.

19. _____ is a conversion of one of a firm's subsidiaries to a stand-alone company by distribution of stock in the new company to existing shareholders.
    A. Stock split.
    B. Stock spin-off.
    C. Frights offering.
    D. Public offering.

20. Nestle, Shell and Coca Cola are known as _____.
    A. blue chip stocks.
    B. income stocks.
    C. speculative stocks.
    D. cyclical stocks.

(Total: 20 marks)

Continued ...

SECTION B: Structured Questions (80 Marks)

QUESTION 1

Type of Investment	Amount (RM)	Return (%)	Beta
Bond	15,000	1.80	1.01
Mutual Funds	25,000	2.15	1.11
Common Stock	38,000	10.5	1.23

Above shows the table of Raju's portfolio. With the knowledge he has, he diversified his portfolio by purchasing a mix of investment vehicles. You are given the responsibility to calculate his return on portfolio and beta on portfolio. (11 marks)

(i) Return on portfolio (5.5 marks)
(ii) Beta on portfolio (5.5 marks)

(Total: 11 marks)

QUESTION 2

		PORTFOLIO WEIGHTS (%)
ASSETS	**BETA**	**LISA PORTFOLIO**
International Stocks	1.25	25
Bond	0.8	35
Mutual fund	1.00	20
Real Estate	0.65	20

(a) Jayden is a financial planner at Ah Mew BHD. He is given a project to evaluate the above portfolio. Based on the above portfolio, calculate the Beta on portfolio. (5 marks)

(b) Given the risk-free rate of 5% and the market return of 15%, calculate the required return for each portfolio using CAPM. (3 marks)

(Total: 8 marks)

Continued ...

QUESTION 3

	(RM in millions)
Current asset	240
Total Asset	**240**
Current Liabilities	185
Long-term debt	25
Stockholder's equity	30
Total liabilities and equities	**240**
Common share outstanding	5 million shares
Total revenue	650
Total operating cost	350
Interest expenses	50
Income taxes	30
Net profits	**220**
Divided paid to common stockholders	RM12.50
Current market price of the common stock	RM28.00 per share

Calculate the below:
i. Net working capital (2 marks)
ii. Current ratio (2 marks)
iii. Total asset turnover (2 marks)
iv. Net profit margin (2 marks)
v. Return on total asset (2 marks)
vi. Return on equity (2 marks)
vii. Earnings per share (2.5 marks)
viii. PE Ratio (2 marks)
viiii. Dividend per share (2 marks)
x. Payout ratio (2 marks)

(Total: 20.5 marks)

Continued ...

QUESTION 4

1st June 2022, Wonderpark Sdn. Bhd. issue a callable bond at par. The coupon rate is 28 percent compounded annually and will mature on 31st December 2028. The bonds are currently selling at RM1,800 and the call price is RM2,000. Wonderpark Sdn. Bhd. plan to call the bonds three (3) years before the maturity date. Assume that 1st June 2022 is the current date.

Calculate the below.

i. Current yield (2.5 marks)

ii. Yield to maturity (4.5 marks)

iii. Yield to call (4.5 marks)

iv. Based on the above statement, if say the company will announce a call after 5years, what will be the yield to call? (4.5 marks)

(Total: 16 marks)

QUESTION 5

Fund	Shares Outstanding	Fund Asset (RM)	Fund Liabilities (RM)	Expected price (RM)
Blue	20,000	200,000	10,000	2.00
Red	35,000	250,000	35,000	3.50
Pink	48,000	380,500	25,000	3.80

i. Calculate the NAV for all the funds (7.5 marks)

ii. Winnie, who just started her own business, feels like investing in mutual funds will be a good idea. She thinks so because the risk is not as high as investing in stocks and in addition is somehow easier too. So, if Winnie plans to buy 355 units of shares for each fund, compute the total amount that she needs to invest. (7 marks)

(Total: 14.5 marks)

Continued ...

QUESTION 6

Fresh Baked Sdn Bhd has a net profit of RM10 million, sales of RM35 million, and 1 million shares of common stock outstanding. The company has a total asset of RM20 million and total stockholders' equity of RM35 million. Fresh Baked Sdn Bhd pays RM3.00 per share stock dividend. The stock trades at RM10 per share. Given this information, calculate the following:

(a) Earnings per share (EPS) (2 marks)

(b) Dividend pay-out ratio (2 marks)

(c) Dividend yield (2 marks)

(d) Price to earnings ratio (PE) (2 marks)

(e) Net profit margin (2 marks)

(Total: 10 marks)

End of Paper.

Appendices

1. $\text{Margin} = \frac{V-D}{V}$

2. Return on invested capital from a margin transaction:

$$\frac{\text{Total current income received} - \text{Total interest paid on margin loan} + \text{Capital gain/loss}}{\text{Amount of equity at purchase}}$$

3. Risk-free rate = Real rate of return + Expected inflation premium

4. Required return on investment, j = Risk-free rate + Risk premium for investment

5. $\text{HPR} = \frac{\text{Income during period} + \text{Capital gain/loss during period}}{\text{Beginning investment value}}$

6. $FV = PV\,(1 + r)^n$

7. $D_1 = D_0\,(1 + g)^n$

8. $\text{Standard Deviation} = \sqrt{\frac{\sum_{t=1}^{n} (r_i - \bar{r})^2}{n-1}}$

9. $\text{Portfolio return} = \sum_{j=1}^{n} (w_j \times r_j)$

10. $r_j = R_F + [\, b_j \times (r_m - R_F)\,]$

11. $\text{Portfolio beta} = \sum_{j=1}^{n} (w_j \times b_j)$

12. $= \frac{\text{Net Income} - \text{Preferred dividends}}{\text{Number of shares of common stock outstanding}}$ EPS

13. $\text{Dividend yield} = \frac{\text{Anual dividends received per share}}{\text{Current market price of the stock}}$

14. $\text{Dividend payout ratio} = \frac{\text{Dividends per share}}{\text{Earnings per share}}$

15. Total returns

    = Current income + Capital gains/losses ± Changes in currency exchange rates

16. $\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$

17. Net working capital = Current assets – Current liabilities

18. $$\text{Accounts receivable turnover} = \frac{\text{Annual sales}}{\text{Accounts receivable}}$$

19. $$\text{Inventory turnover} = \frac{\text{Annual sales}}{\text{Inventory}}$$

20. $$\text{Total asset turnover} = \frac{\text{Annual sales}}{\text{Total assets}}$$

21. $$\text{Debt-equity ratio} = \frac{\text{Long-term debt}}{\text{Stockholders' equity}}$$

22. $$\text{Time interest earned} = \frac{\text{EBIT}}{\text{Interest expenses}}$$

23. $$\text{Net profit margin} = \frac{\text{Net profit after taxes}}{\text{Total revenue}}$$

24. $$\text{ROA} = \frac{\text{Net profit after taxes}}{\text{Total assets}}$$

24. $$\text{ROE} = \frac{\text{Net profit after taxes}}{\text{Stockholders' equity}}$$

25. $$\text{P/E} = \frac{\text{Net price of common stock}}{\text{EPS}}$$

26. $$\text{PEG ratio} = \frac{\text{Stock's P/E ratio}}{\text{3-to-5 year growth rate in earnings}}$$

27. $$\text{Dividend per share} = \frac{\text{Annual dividend paid to common stock}}{\text{Number of common shares outstanding}}$$

28. $$\text{Payout ratio} = \frac{\text{Dividends per share}}{\text{Earnings per share}}$$

29. $$\text{Book value per share} = \frac{\text{Common stockholders' equity}}{\text{Number of common shares outstanding}}$$

30. $$\text{Price-to-book-value} = \frac{\text{Market price of common stock}}{\text{Book value per share}}$$

31. Conversion value = Conversion ratio x Current market price of the stock

32. $$\text{Conversion equivalent} = \frac{\text{Current market price of the convertible bond}}{\text{Conversion ratio}}$$

33. Conversion premium (in RM)
= Current market price of the convertible bond – Conversion value

34. $$\text{Conversion premium (in \%)} = \frac{\text{Conversion premium (in RM)}}{\text{Conversion value}}$$

35. Payback period =

$$\frac{\text{Conversion premium (in RM)}}{\text{Annual interest income from the convertible bond} - \text{Annual dividend income from the underlying common stock}}$$

36. $$\text{Current yield} = \frac{\text{Annual interest income}}{\text{Current market price of the bond}}$$

37. $$\text{Yield to maturity} = \frac{\text{Annual interest} + \frac{\text{Par value} - \text{Market price}}{\text{Number of years to maturity}}}{\frac{\text{Par value} + \text{market price}}{2}}$$

39. $$\text{Yield to call} = \frac{\text{Annual interest} + \frac{\text{Call price} - \text{Market price}}{\text{Number of years to call}}}{\frac{\text{Call price} + \text{market price}}{2}}$$